

Title (en)

ANTI-PHF-TAU ANTIBODIES AND THEIR USES

Title (de)

ANTI-PHF-TAU-ANTIKÖRPER UND DEREN VERWENDUNGEN

Title (fr)

ANTICORPS ANTI-PHF-TAU ET LEURS UTILISATIONS

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Application

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Abstract (en)

The present invention relates to anti-PHF tau antibodies and methods of making and using them.

IPC 8 full level

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Citation (applicant)

- US 201161577817 P 20111220
- WO 9201047 A1 19920123 - CAMBRIDGE ANTIBODY TECH [GB], et al
- US 4816567 A 19890328 - CABILLY SHMUEL [US], et al
- US 5225539 A 19930706 - WINTER GREGORY P [GB]
- US 2010261620 A1 20101014 - ALMAGRO JUAN CARLOS [US], et al
- WO 2004006955 A1 20040122 - FOOTE JEFFERSON [US]
- US 7657380 B2 20100202 - LAZAR GREGORY ALAN [US], et al
- US 2011092372 A1 20110421 - ALMAGRO JUAN CARLOS [US], et al
- BRUNDEN ET AL., NAT REV DRUG DISCOV, vol. 8, 2009, pages 783 - 93
- CHAI ET AL., J BIOL CHEM, vol. 286, 2011, pages 34457 - 67
- BOUTAJANGOUT ET AL., JNEUROCHEM, vol. 118, 2011, pages 658 - 67
- BOUTAJANGOUT ET AL., JNEUROSCI, vol. 30, 2010, pages 16559 - 66
- ASUNI ET AL., JNEUROSCI, vol. 27, 2007, pages 9115 - 29
- FROST ET AL., JBIOL CHEM, vol. 284, 2009, pages 12845 - 52
- CLAVAGUERA ET AL., NAT CELL BIOL, vol. 11, 2009, pages 909 - 13
- WUKABAT, JEXP MED, vol. 132, 1970, pages 211 - 50
- KABAT ET AL.: "Health Service, National Institutes of Health", 1991, article "Sequences of Proteins of Immunological Interest"
- CHOTHIALESK, J MOL BIOL, vol. 196, 1987, pages 901 - 17
- ABHINANDANMARTIN, MOL IMMUNOL, vol. 45, 2008, pages 3832 - 9
- LEFRANC ET AL., DEV COMP IMMUNOL, vol. 27, 2003, pages 55 - 77
- ALMAGRO, J MOL RECOGNIT, vol. 17, 2004, pages 132 - 43
- HANGER ET AL., TRENDS MOL MED, vol. 15, 2009, pages 112 - 9
- WISCHIK ET AL., PROC NATL ACAD SCI USA, vol. 85, 1988, pages 4884 - 8
- MERCKEN ET AL., JNEUROCHEM, vol. 58, 1992, pages 548 - 53
- KOHLERMILSTEIN, NATURE, vol. 256, 1975, pages 495 - 7
- LONBERG ET AL., NATURE, vol. 368, 1994, pages 856 - 9
- FISHWILD ET AL., NAT BIOTECHNOL, vol. 14, 1996, pages 845 - 51
- MENDEZ ET AL., NAT GENET, vol. 15, 1997, pages 146 - 56
- KNAPPIK ET AL., J MOL BIOL, vol. 296, 2000, pages 57 - 86
- KREBS ET AL., J IMMUNOL METHODS, vol. 254, 2001, pages 67 - 84
- SHI ET AL., J MOL BIOL, vol. 397, 2010, pages 385 - 96
- PADLAN ET AL., MOL. IMMUNOL., vol. 28, 1991, pages 489 - 98
- QUEEN ET AL., PROC NATL ACAD SCI USA, vol. 86, 1989, pages 10029 - 33
- GREENBERGDAVIES, PROC NATL ACAD SCI USA, vol. 87, 1990, pages 5827 - 31
- SPILLANTINIGOEDERT, RENDS NEUROSCI, vol. 21, 1998, pages 428 - 33
- STROHL, CURR OPIN BIOTECHNOL, vol. 20, 2009, pages 685 - 91
- KNIGHT ET AL., PLATELETS, vol. 15, 2004, pages 409 - 18
- LEONG ET AL., CYTOKINE, vol. 16, 2001, pages 106 - 19
- YANG ET AL., PROTEIN ENG, vol. 16, 2003, pages 761 - 70
- MORRIS ET AL., NEURON, vol. 70, 2011, pages 410 - 26
- CHAI ET AL., JBIOL CHEM, vol. 286, 2011, pages 34457 - 67

Citation (search report)

- [XII] WO 9308302 A1 19930429 - INNOGENETICS NV [BE]
- [XII] WO 9517429 A1 19950629 - INNOGENETICS NV [BE], et al
- [XII] WO 9604309 A1 19960215 - INNOGENETICS NV [BE], et al
- [XII] WO 2010144711 A2 20101216 - UNIV NEW YORK [US], et al
- [A] US 2011143443 A9 20110616 - MERCKEN MARC [BE], et al
- [XII] US 2011059093 A1 20110310 - BOHRMANN BERND [CH], et al
- [XII] JEAN-PIERRE BRION ET AL: "Neurofilament Monoclonal Antibodies RT97 and 8D8 Recognize Different Modified Epitopes in Paired Helical Filament-? in Alzheimer's Disease", JOURNAL OF NEUROCHEMISTRY, vol. 60, no. 4, 1 April 1993 (1993-04-01), NEW YORK, NY, US, pages 1372 - 1382, XP055207252, ISSN: 0022-3042, DOI: 10.1111/j.1471-4159.1993.tb03298.x

- [XI] MASATO HASEGAWA ET AL: "Characterization of Two Distinct Monoclonal Antibodies to Paired Helical Filaments: Further Evidence for Fetal-Type Phosphorylation of the ? in Paired Helical Filaments", JOURNAL OF NEUROCHEMISTRY, vol. 60, no. 6, 1 June 1993 (1993-06-01), NEW YORK, NY, US, pages 2068 - 2077, XP055207251, ISSN: 0022-3042, DOI: 10.1111/j.1471-4159.1993.tb03491.x
- [XI] GOEDERT M ET AL: "EPITOPE MAPPING OF MONOCLONAL ANTIBODIES TO THE PAIRED HELICAL FILAMENTS OF ALZHEIMER'S DISEASE: IDENTIFICATION OF PHOSPHORYLATIONSITES IN TAU PROTEIN", BIOCHEMICAL JOURNAL, PORTLAND PRESS LTD, GB, vol. 301, no. PART 03, 1 August 1994 (1994-08-01), pages 871 - 877, XP000996679, ISSN: 0264-6021
- [XI] CONDOMINES O ET AL: "New immunoassay for the mapping of neurofibrillary degeneration in Alzheimer's disease using two monoclonal antibodies against human paired helical filament tau proteins", NEUROSCIENCE LETTERS, LIMERICK, IE, vol. 192, no. 2, 9 June 1995 (1995-06-09), pages 81 - 84, XP002266004, ISSN: 0304-3940, DOI: 10.1016/0304-3940(95)11617-6
- [XI] HASEGAWA M ET AL: "CHARACTERIZATION OF MAB AP422, A NOVEL PHOSPHORYLATION-DEPENDENT MONOCLONAL ANTIBODY AGAINST TAU PROTEIN", FEBS LETTERS, ELSEVIER, AMSTERDAM, NL, vol. 384, 1 January 1996 (1996-01-01), pages 25 - 30, XP000916614, ISSN: 0014-5793, DOI: 10.1016/0014-5793(96)00271-2
- [XI] HOFFMANN R ET AL: "Unique Alzheimer's disease paired helical filament specific epitopes involve double phosphorylation at specific sites", BIOCHEMISTRY, AMERICAN CHEMICAL SOCIETY, US, vol. 36, no. 26, 1 July 1997 (1997-07-01), pages 8114 - 8124, XP002625812, ISSN: 0006-2960, DOI: 10.1021/BI970380-
- [XI] JICHA GREGORY A ET AL: "A conformation- and phosphorylation-dependent antibody recognizing the paired helical filaments of Alzheimer's disease", JOURNAL OF NEUROCHEMISTRY, vol. 69, no. 5, 1997, pages 2087 - 2095, XP002743263, ISSN: 0022-3042
- [XI] SINGER D ET AL: "Neighbored phosphorylation sites as PHF-tau specific markers in Alzheimer's disease", BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, ACADEMIC PRESS INC. ORLANDO, FL, US, vol. 346, no. 3, 4 August 2006 (2006-08-04), pages 819 - 828, XP024925390, ISSN: 0006-291X, [retrieved on 20060804], DOI: 10.1016/J.BBRC.2006.05.201
- [XI] PORZIG R ET AL: "Epitope mapping of mAbs AT8 and Tau5 directed against hyperphosphorylated regions of the human tau protein", BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, ACADEMIC PRESS INC. ORLANDO, FL, US, vol. 358, no. 2, 29 June 2007 (2007-06-29), pages 644 - 649, XP026422493, ISSN: 0006-291X, [retrieved on 20070629], DOI: 10.1016/J.BBRC.2007.04.187
- [A] MERCKEN M ET AL: "MONOCLONAL ANTIBODIES WITH SELECTIVE SPECIFICITY FOR ALZHEIMER TAU ARE DIRECTED AGAINST PHOSPHATASE-SENSITIVE EPITOPES", ACTA NEUROPATHOLOGICA, SPRINGER VERLAG, BERLIN, DE, vol. 84, no. 3, 1 January 1992 (1992-01-01), pages 265 - 272, XP008049337, ISSN: 0001-6322, DOI: 10.1007/BF00227819
- [T] FRANCK R. PETRY ET AL: "Specificity of Anti-Tau Antibodies when Analyzing Mice Models of Alzheimer's Disease: Problems and Solutions", PLOS ONE, vol. 9, no. 5, 2 May 2014 (2014-05-02), pages e94251, XP055207209, DOI: 10.1371/journal.pone.0094251

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US 2012070486 W 20121219; AU 2012359039 A 20121219; AU 2017264975 A 20171120; BR 112014015323 A 20121219; CA 2859665 A 20121219; CA 3234629 A 20121219; CN 201280062971 A 20121219; CN 201710472573 A 20121219; CO 14134449 A 20140620; CY 191100834 T 20190806; DK 12859920 T 20121219; EA 201491224 A 20121219; EC PI201405975 A 20140620; EP 12859920 A 20121219; EP 19173615 A 20121219; ES 12859920 T 20121219; GT 201400127 A 20140620; HK 15103967 A 20150424; HK 18103213 A 20180307; HR P20191342 T 20190725; HU E12859920 A 20121219; IL 23305114 A 20140610; IL 26302118 A 20181114; IL 28125021 A 20210303; JP 2014548811 A 20121219; JP 2017245019 A 20171221; JP 2019108147 A 20190610; JP 2020020482 A 20200210; KR 20147019911 A 20121219; LT 12859920 T 20121219; MX 2014007476 A 20121219; MY PI2014701643 A 20121219; MY PI2017000364 A 20121219; NI 201400061 A 20140619; NZ 62626912 A 20121219; NZ 72014112 A 20121219; PH 12014501427 A 20140620; PL 12859920 T 20121219; PT 12859920 T 20121219; RS P20190932 A 20121219; SG 11201403106S A 20121219; SI 201231610 T 20121219; TR 201910720 T 20121219; UA A201408042 A 20121219; US 201214363888 A 20121219; US 201615138635 A 20160426; US 201715646865 A 20170711; US 201815984772 A 20180521; ZA 201405317 A 20140718